**3GPP TSG-SA6 Meeting #61S6-242341**

**Jeju, Korea (Republic Of), 20th May 2024 - 24th May 2024 (revision of S6-242024)**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.289** | **CR** | **0120** | **rev** | 1 | **Current version:** | **19.1.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | UE to UE single hop relay | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | FirstNet | | | | | | | | | |
| ***Source to TSG:*** | SA6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | enhMC | | | | |  | ***Date:*** | | | 2024-05-09 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As part of Rel-18 3GPP SA2 completed the architecture work to support UE-to-UE single hope relay. This CR proposes the needed changes to the mission critical architecture to enable MCx over single hop relay for off network UEs | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The changes are to add updates for off network service requirements and to add a new functional reference model for MC UE-to-UE single hop relay. | | | | | | | | |
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| ***Consequences if not approved:*** | | Single hop relay will not be supported, and requirements not fulfilled | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.X (new), 5.3.5 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Revision1 – Added Use of 5G ProSe UE-to-UE relay section and added new functional model.  Initial CR | | | | | | | | |

\* \* \* First Change \* \* \* \*

### 4.x Use of 5G ProSe UE-to-UE relay

### 4.X.1 General

The MC service shall support the capabilities for 5G ProSe UE-to-UE single hop relay. For this matter, 5G ProSe Layer-2 and 5G ProSe Layer-3 UE-to-UE relaying techniques can be utilized, as described in 3GPP TS 23.304 [17].

A 5G ProSe UE-to-UE relay supporting MC service UE provides means of connectivity and relaying of MC traffic from a MC service UE to another MC service UE(s) via a MC UE Relay. For this matter, the 5G ProSe UE-to-UE Relay Discovery service allows the MC service remote UE to discover a potential UE-to-UE relay supporting MC service in its proximity as described in 3GPP TS 23.304 [17]. Upon its discovery, the 5G ProSe Direct UE-to-UE Relay Communication functionality is utilized to achieve communication to provide the MC service between MC UEs, relaying MC traffic via the UE-to-UE relay UE over the NR PC5 reference point.

### 4.X.2 5G ProSe UE-to-UE relay service requirements

In order to enable 5G ProSe UE-to-UE relaying capabilities – whether based on Layer-3 or Layer-2 UE-to-UE relaying techniques, the MC system provides the appropriate parameters and configurations to the MC service UE(s).

As defined in 3GPP TS 23.304 [17], among these parameters are: Relay Service Code(s) (RSCs) which can be associated to a certain MC service group, User Info, ProSe Layer-2 Group ID and ProSe Group IP multicast address. Moreover, the MC service group ID is resolved to the ProSe Layer-2 Group ID and ProSe Group IP multicast address, which are utilized within the 5G ProSe Relay Discovery and 5G ProSe Direct Communication procedures, as described in 3GPP TS 23.304 [17]. Furthermore, the RSCs are utilized to restrict the necessary UE-to-UE relay service and related procedures within members of a certain MC service group.

\* \* \* Second Change \* \* \* \*

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### 5.3.5 Off-network single hop relay functional model

Figure 5.3.5-1 shows the functional model for off-network operation.



Figure 5.3.5-1: Functional model for MC service off-network single hop relay operation

For a specific MC service, the description of off-network operation is contained in the corresponding MC service TS.

Editor’s Note: Additional work is needed to finalize the information flows and information elements to support this functionality.

\* \* \* End Changes \* \* \* \*